Name:

at1110paper_practice_test (v23)

1. Factor the expression.

$$16x^2 - 81$$

$$(4x - 9)(4x + 9)$$

2. Solve the equation with factoring by grouping.

$$15x^2 + 18x - 10x - 12 \;=\; 0$$

$$(3x - 2)(5x + 6) = 0$$
$$x = \frac{2}{3} \qquad x = \frac{-6}{5}$$

3. Expand the following expression into standard form.

$$(7x + 8)(3x + 4)$$

$$21x^2 + 28x + 24x + 32$$
$$21x^2 + 52x + 32$$

4. Solve the equation.

$$(7x - 4)(8x + 3) \;=\; 0$$

$$x = \frac{4}{7} \qquad x = \frac{-3}{8}$$

5. Expand the following expression into standard form.

$$(7x + 2)(7x - 2)$$

$$49x^2 - 14x + 14x - 4$$
$$49x^2 - 4$$

6. Solve the equation.

$$7x^2 - 13x + 1 \;=\; 4x^2 - 2x - 5$$

$$3x^2 - 11x + 6 = 0$$
$$(3x - 2)(x - 3) = 0$$
$$x = \frac{2}{3} \qquad x = 3$$

7. Expand the following expression into standard form.

$$(3x - 4)^2$$

$$9x^2 - 12x - 12x + 16$$
$$9x^2 - 24x + 16$$

8. Factor the expression.

$$x^2 + 17x + 72$$

$$(x + 9)(x + 8)$$